

CLAIMS

1. A liquid crystal display device comprising:
a liquid crystal panel;
a light source for emitting light to be incident on said liquid crystal panel;
a synchronizing unit for synchronizing control of turning on said light source with data scanning based on image data to be displayed on said liquid crystal panel in each predetermined period;
and
a control unit for turning on said light source between corresponding timings in respective beginning scanning of one or a plurality of times of first-half data scanning and one or a plurality of times of second-half data scanning within the predetermined period.
2. The liquid crystal display device of claim 1, wherein the corresponding timing is a substantially intermediate time point in the respective beginning scanning.
3. The liquid crystal display device of claim 1, wherein a voltage applied to said liquid crystal panel in one or a plurality of times of first-half data scanning and a voltage applied to said liquid crystal panel in one or a plurality of times of second-half data scanning are equal in magnitude and opposite in polarity.

4. The liquid crystal display device of claim 1, wherein a darker display is obtained by one or a plurality of times of second-half data scanning compared to one or a plurality of times of first-half data scanning.

5. The liquid crystal display device of claim 1, wherein a brightness distribution of said light source is uneven in a data scanning direction.

6. The liquid crystal display device of claim 5, wherein the brightness of said light source is lowest in a center in the data scanning direction and increases from the center toward upstream and downstream in the data scanning direction.

7. The liquid crystal display device of claim 5, wherein the brightness of said light source is lowest in a center in the data scanning direction, increases from the center toward upstream and downstream in the data scanning direction, and is higher on downstream side than on upstream side.

8. A liquid crystal display device comprising:
a liquid crystal panel;
a light source for emitting light to be incident on said liquid crystal panel;

a synchronizing unit for synchronizing control of turning on said light source with data scanning based on image data to be displayed on said liquid crystal panel in each predetermined period; and

a switching unit for making switching between a first method in which said light source is turned on between corresponding timings in respective beginning scanning of one or a plurality of times of first-half data scanning and one or a plurality of times of second-half data scanning within the predetermined period and a second method in which said light source is turned on between a start timing of beginning scanning of one or a plurality of times of first-half data scanning and an end timing of beginning scanning of one or a plurality of times of second-half data scanning within the predetermined period.

9. The liquid crystal display device of claim 1, wherein a liquid crystal material for use in said liquid crystal panel has spontaneous polarization.

10. The liquid crystal display device of claim 8, wherein a liquid crystal material for use in said liquid crystal panel has spontaneous polarization.

11. The liquid crystal display device of claim 1, wherein said light source emits light of at least three primary colors,

and a color display is performed by switching the color of light emitted by said light source in a time-divided manner in synchronism with ON/OFF driving of switching elements.

12. The liquid crystal display device of claim 8, wherein said light source emits light of at least three primary colors, and a color display is performed by switching the color of light emitted by said light source in a time-divided manner in synchronism with ON/OFF driving of switching elements.

13. The liquid crystal display device of claim 1, wherein said light source emits light of white color, and a color display is performed by selectively transmitting the light emitted from said light source through color filters of a plurality of colors.

14. The liquid crystal display device of claim 8, wherein said light source emits light of white color, and a color display is performed by selectively transmitting the light emitted from said light source through color filters of a plurality of colors.